

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference PU5004WO	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US 03/39740	International filing date (day/month/year) 12/12/2003	(Earliest) Priority Date (day/month/year) 13/12/2002
Applicant SMITHKLINE BEECHAM CORPORATION		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 8 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☒ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☐ None of the figures.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 03/39740

Box III TEXT OF THE ABSTRACT (Continuation of item 5 of the first sheet)

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 03/39740

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07D451/02 C07D413/06 C07D413/14 C07D471/10 C07D417/14
A61K31/46 A61P31/18

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07D A61K A61P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00/58292 A (SANOFI-SYNTHELABO) 5 October 2000 (2000-10-05) claim 1; examples ---	1-25
X	WO 96/23787 A (SANOFI) 8 August 1996 (1996-08-08) claim 1; examples ---	1-25
X	WO 02/094821 A (SANOFI-SYNTHELABO) 28 November 2002 (2002-11-28) claim 1; examples ---	1-25
X	EDMONDS-ALT ET AL.: THE JOURNAL OF PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS, vol. 303, no. 3, 2002, pages 1171-79, XP002280312 figure 1 --- -/--	1-25



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

14 May 2004

Date of mailing of the international search report

03/06/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Lauro, P

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	ALI ET AL.: BIOORG. MED. CHEM. LETT., vol. 11, 2001, pages 819-822, XP002280313 figure 1A ----	1-25
X	NISHI ET AL.: BIOORG. MED. CHEM. LETT., vol. 10, 2000, pages 1665-68, XP002280314 examples ---	1-25
X	JP 01 031570 A (SANKYO) 1 February 1989 (1989-02-01) examples ---	1-25
Y	WO 02/079194 A (SCHERING CORP) 10 October 2002 (2002-10-10) the whole document ---	1-42
Y	WO 02/05819 A (BONDINELL WILLIAM E ;SMITHKLINE BEECHAM CORP (US); NEEB MICHAEL J) 24 January 2002 (2002-01-24) the whole document ---	1-42
Y	PALANI A ET AL: "Discovery of 4-'(Z)-(4-Bromophenyl)-(ethoxyimino)methyl !-1'-'(2,4-dim ethyl-3-pyridinyl)carbonyl!-4'-methyl-1,4' -bipiperidine N-Oxide (SCH 351125): An Orally Bioavailable Human CCR5 Antagonist for the Treatment of HIV Infection" JOURNAL OF MEDICINAL CHEMISTRY, AMERICAN CHEMICAL SOCIETY. WASHINGTON, US, vol. 44, no. 21, 11 October 2001 (2001-10-11), pages 3339-3342, XP002220286 ISSN: 0022-2623 the whole document ---	1-42
Y	WO 02/081449 A (NOVARTIS ERFIND VERWALT GMBH ;ALBERT RAINER (CH); NOVARTIS AG (CH)) 17 October 2002 (2002-10-17) the whole document -----	1-42

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Present claims 1-42 relate to an extremely large number of possible compounds. Support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT is to be found, however, for only a very small proportion of the compounds claimed. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Consequently, the search has been carried out for those parts of the claims which appear to be supported and disclosed, namely those parts relating to the compounds of formula (I) in which B-R1 represents a 6-phenyl-1,3-oxazinanyl or a 2-phenyl morpholinyl (i.e. R1 is phenyl) which are supported by the examples.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 03/39740

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Although claims 26-30,40-42 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☒ Claims Nos.: -
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 03/39740

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0058292	A	05-10-2000	FR 2791346 A1	29-09-2000
			AU 756855 B2	23-01-2003
			AU 3301600 A	16-10-2000
			BG 105923 A	31-05-2002
			BR 0009281 A	22-01-2002
			CA 2366829 A1	05-10-2000
			CN 1353698 T	12-06-2002
			CZ 20013365 A3	16-01-2002
			EE 200100499 A	16-12-2002
			EP 1165528 A1	02-01-2002
			WO 0058292 A1	05-10-2000
			HR 20010704 A1	31-08-2002
			HU 0201863 A2	28-12-2002
			ID 29871 A	18-10-2001
			JP 2002540195 T	26-11-2002
			NO 20014632 A	26-11-2001
			NZ 513674 A	30-05-2003
			PL 351317 A1	07-04-2003
			RU 2222537 C2	27-01-2004
			SK 13462001 A3	09-05-2002
			TR 200102639 T2	21-02-2002
			TW 534906 B	01-06-2003
			US 6506750 B1	14-01-2003
			ZA 200106981 A	24-10-2002
WO 9623787	A	08-08-1996	FR 2729952 A1	02-08-1996
			FR 2729953 A1	02-08-1996
			FR 2729954 A1	02-08-1996
			AT 222251 T	15-08-2002
			AU 3013399 A	19-08-1999
			AU 707901 B2	22-07-1999
			AU 4666996 A	21-08-1996
			BR 1100937 A3	01-08-2000
			CA 2211668 A1	08-08-1996
			CN 1321634 A ,B	14-11-2001
			CN 1321639 A	14-11-2001
			CN 1394855 A	05-02-2003
			CN 1172483 A ,B	04-02-1998
			CZ 9702436 A3	12-11-1997
			DE 69622992 D1	19-09-2002
			DE 69622992 T2	10-04-2003
			DK 807111 T3	16-12-2002
			EP 1156049 A1	21-11-2001
			EP 1340754 A1	03-09-2003
			EP 0807111 A1	19-11-1997
			ES 2181866 T3	01-03-2003
			FI 973148 A	29-09-1997
			WO 9623787 A1	08-08-1996
			HU 9800295 A2	28-10-1999
			IL 116957 A	20-06-1999
			JP 3234228 B2	04-12-2001
			JP 11507324 T	29-06-1999
			JP 3357660 B2	16-12-2002
			JP 2001172279 A	26-06-2001
			JP 2001131171 A	15-05-2001
			JP 2002138088 A	14-05-2002
			NO 973479 A	29-09-1997
			NZ 301285 A	28-01-2000

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 03/39740

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9623787	A		PL 321640 A1	22-12-1997
			PT 807111 T	31-12-2002
			RU 2157807 C2	20-10-2000
			SI 807111 T1	28-02-2003
			US 6242637 B1	05-06-2001
			US 5977359 A	02-11-1999
			US 5641777 A	24-06-1997
			US 5780466 A	14-07-1998
			US 5869663 A	09-02-1999
			ZA 9600694 A	26-08-1996
WO 02094821	A	28-11-2002	FR 2824828 A1	22-11-2002
			CA 2445631 A1	28-11-2002
			CZ 20033132 A3	18-02-2004
			EE 200300553 A	16-02-2004
			EP 1395582 A1	10-03-2004
			WO 02094821 A1	28-11-2002
			HR 20030923 A2	29-02-2004
JP 01031570	A	01-02-1989	JP 1807604 C	10-12-1993
			JP 5007109 B	28-01-1993
WO 02079194	A	10-10-2002	CA 2442227 A1	10-10-2002
			CZ 20032636 A3	17-12-2003
			EP 1373256 A1	02-01-2004
			NO 20034311 A	26-11-2003
			SK 11962003 A3	02-03-2004
			WO 02079194 A1	10-10-2002
			US 2003008877 A1	09-01-2003
WO 0205819	A	24-01-2002	AU 8059901 A	30-01-2002
			EP 1313477 A1	28-05-2003
			WO 0205819 A1	24-01-2002
WO 02081449	A	17-10-2002	CA 2439241 A1	17-10-2002
			CZ 20032723 A3	17-12-2003
			WO 02081449 A1	17-10-2002
			EP 1379504 A1	14-01-2004
			HU 0303724 A2	01-03-2004
			NO 20034324 A	26-09-2003
			SK 12422003 A3	04-05-2004